Glendale College

Course Outline of Record Report

Course ID 003261

Cyclical Review - November 2025

MATH138 : Mathematics For Elementary Teachers

General Information

Author:	• Suzanne Palermo
Course Code (CB01) :	MATH138
Course Title (CB02) :	Mathematics For Elementary Teachers
Department:	MATH
Proposal Start:	Fall 2026
TOP Code (CB03) :	(1701.00) Mathematics, General
CIP Code:	(27.0101) Mathematics, General.
SAM Code (CB09) :	E - Non-Occupational
Distance Education Approved:	Yes
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000298820
Curriculum Committee Approval Date:	11/26/2025
Board of Trustees Approval Date:	01/13/2026
Last Cyclical Review Date:	11/26/2025
Course Description and Course Note:	MATH 138 is for students preparing to become elementary school teachers. Students develop a strong foundation in essential mathematical concepts, including problem-solving strategies, set operations, functions, number theory, and working with ratios, proportions, and percentages. Emphasis is placed on developing a deep understanding of these topics to support effective teaching in the elementary classroom.
Justification:	Mandatory Revision
Academic Career:	• Credit
Mode of Delivery:	• In-Person • Remote • Hybrid • Proctored Online
Author:	No value
Course Family:	No value

Academic Senate Discipline

Primary Discipline:	• Mathematics
Alternate Discipline:	No value
Alternate Discipline:	No value

Last Course Offering

When was this course last offered (term and year)?

Spring 2025

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

GE Status (CSU) B4, (UC) 2

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

GCC General Education Requirements	Area	Status	Approval Date	Comparable Course
Area 2: Mathematical Concepts and Quantitative Reasoning	Mathematical Concepts and Quantitative Reasoning	Approved	09/02/2025	No Comparable Course defined.

C-ID	Area	Status	Approval Date	Comparable Course
MATH	Mathematics	Approved	08/27/2018	MATH 120 - Mathematical Concepts for Elementary School Teachers - Number Systems

Cal-GETC	Area	Status	Approval Date	Comparable Course
Area 2: Mathematical Concepts and Quantitative Reasoning	Mathematical Concepts and Quantitative Reasoning	Pending	No value	No Comparable Course defined.

Units and Hours

Summary

Minimum Credit Units (CB07)	3
Maximum Credit Units (CB06)	3
Total Course In-Class (Contact) Hours	54
Total Course Out-of-Class Hours	108
Total Student Learning Hours	162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	3	6
Laboratory Hours	0	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	54
Laboratory	0
Studio	0
Total	54
Course Out-of-Class Hours	
Lecture	108
Laboratory	0
Studio	0
Total	108

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class

No Value	No Value	No Value	No Value

Prerequisites, Corequisites, Recommended Corequisites, and Recommended Preparation

Prerequisite

Placement is based on academic background or satisfactory completion of Intermediate Algebra.

Entry Standards

Entry Standards	Description
No value	No value

Course Limitations

Cross Listed or Equivalent Course	Description
No value	No value

Requisite Validation

Upload Statistical Validation and/or other documents (if necessary)

No Value

Specifications

Methods of Instruction

Methods of Instruction	Lecture
Methods of Instruction	Discussion
Methods of Instruction	Tutorial

Methods of Instruction	Collaborative Learning

Out of Class Assignments

- Homework (e.g. problem sets)
- Writing assignments that may include journals, projects, or papers (e.g. a written reflective journal detailing homework challenges)

Methods of Evaluation	Description of Activity/Interaction
Exam/Quiz/Test	Quizzes
Exam/Quiz/Test	Three to five regularly scheduled exams are required
Exam/Quiz/Test	A comprehensive final examination is required
Presentation (group or individual)	Presentation on course topics, e.g. board games for elementary school students

Textbook Rationale

The textbook is a seminal text and is the most recent edition.

Textbooks

Author	Title	Publisher	Date	ISBN
Musser, Gary	Mathematics for Elementary Teachers	Hoboken: John Wiley	2014	978-1-118-45744-3

Other Instructional Materials (i.e. OER, handouts)

No Value

Learning Outcomes

Course Objectives

Apply problem-solving techniques.

Evaluate the equivalence of numeric algorithms and explain the advantages and disadvantages of equivalent algorithms in different circumstances.

Apply algorithms from number theory to determine divisibility in a variety of settings.

Analyze least common multiples and greatest common divisors and their role in standard algorithms.

Define the natural, whole, integer, rational, irrational, and real number systems.

Analyze the structure and properties of whole, rational, and real number systems; define the concept of rational and irrational numbers, including their decimal representation; and illustrate the use of a number line representation.

Explain the concept of rational numbers, using both ratio and decimal representations; analyze the arithmetic algorithms for these two representations; and justify their equivalence.

Develop activities implementing national and state curriculum standards, in particular common core standards.

Identify properties and perform operations with different number systems and place value systems.

Use basic number theory concepts to solve related problems.

Use ratio, proportion, and percents.

SLOs

Perform calculations in, and analyze properties of, various number systems using different algorithms. Expected Outcome Performance: 70.0

ST DV Liberal Arts: Science and Mathematics Emphasis A.A. Degree	Apply mathematical and scientific ideas to analyze real-world situations.
ILOs Core ILOs	Use quantitative and/or analytical mathematical skills to solve problems and to interpret, evaluate, and process information and data to draw logical conclusions and support claims.

Demonstrate conceptual understanding of mathematical topics through the use of patterns, problem solving, communication, connections, modeling, reasoning, and functions with their representations. Expected Outcome Performance: 70.0

ILOs Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.
	Use quantitative and/or analytical mathematical skills to solve problems and to interpret, evaluate, and process information and data to draw logical conclusions and support claims.
ST DV Liberal Arts: Science and Mathematics Emphasis A.A. Degree	Apply mathematical and scientific ideas to analyze real-world situations.
	Read, write, listen to, and speak about mathematical and scientific ideas with understanding.

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Problem Solving (4 hours)
- Polya's four-step process
- Problem Solving Strategies: modeling, patterns, connections, reasoning
- Representations: concrete/pictorial, abstract

Sets and Numeration Systems (8 hours)
- Operations on sets, including union and intersection
- Historical numeration systems: Tally system, Egyptian, Roman, Babylonian, Mayan
- Hindu-Arabic numeration system
- Types of numeration systems: additive, subtractive, multiplicative, place-value

Operations of Whole Numbers (8 hours)
- Basic Properties
- Ordering, including number line representation
- Approaches to arithmetic operations of whole numbers
- Computational algorithms
- Other bases

Number Theory (5 hours)
- Primes, composites, divisibility rules
- Prime factorization and the Fundamental Theorem of Arithmetic
- Greatest Common Factor and Least Common Multiple

Rational Numbers (5 hours)
- The set of fractions and basic properties
- Arithmetic operations with fractions
- Computational algorithms

Decimals, Ratio, and Percent (6 hours)
- Fraction equivalents, order
- Arithmetic operations with decimals
- Ratio, proportion and percent
- Modeling percents

Integers (4 hours)
- Structure and basic properties
- Order, absolute value
- Arithmetic operations and algorithms

Real Numbers (5 hours)

- Structure and basic properties
- Rational and irrational numbers
- Arithmetic Operations
- The real number line

Introduction to Algebra (5 hours)
- Representing and solving equations
- Relations and Functions
- Graphs of Functions

Curriculum Standards for Elementary School Math (4 hours)
- National and state curriculum standards
- Common Core state standards

Total Hours: 54

Additional Information

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Is it possible this course will have a material fee?

No

I have contacted my library liaison (https://campusguides.glendale.edu/faculty/liaisons):

No

What term(s) will this course be offered?

Spring

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value